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**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

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| In re Application of: | Docket: ACH 2779US |
| Sonja Eijsbouts | Group Art Unit: 1754 |
| | Examiner: Cam Nguyen |
| Serial No.: 09/829,625 | |
| Filing Date: April 10, 2001 | |
| For: PROCESS FOR ACTIVATING A CATALYST CONTAINING AN S-CONTAINING ADDITIVE | |

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on November 6, 2003

Vickie Purcell

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Commissioner for Patents
P.O. Box 1450
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AMENDMENT UNDER 37 CFR § 1.116

Sir,

This is in response to an Office Action mailed October 16, 2003, rejecting claims 1-4, 15-18, 20-24, 26, 30 and 31 and withdrawing claims 32 and 33 from consideration.

Applicants affirm election of claims 1-31 (Group I) for prosecution.

In the claims

Attached are amended claims.

Remarks

Applicant expresses her appreciation for allowance of claims 1, 2, 5-13, 15-21, 23, 25-30, and 34-36.

Claim Objections

Adopting the corrections required by the Examiner has obviated the objections raised by the Examiner.

Rejections Under 35 USC § 112 (Second Paragraph)

Claims 4 and 22 have been amended so as to provide proper Markush terminology in claim 4 and proper antecedent basis in claim 22.

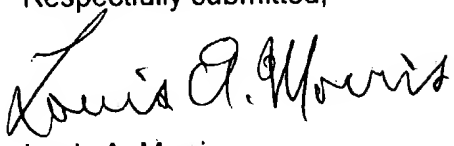
Rejections Under 35 USC § 102(b)/103

Claim 31 is rejected as being anticipated or obvious over either Seamans et al. or de Jong et al. The Examiner is correct with regard to the elemental composition of the activated catalysts of those references. The Examiner is also correct that product by process limitations relating to how a composition is made do not impart novelty to a composition, where the composition is indistinguishable from prior art compositions.

However, the composition of the catalyst of claim 31 is readily distinguishable from the prior art compositions. It is made clear in the examples of the instant text that catalyst activated in accordance with the instant process shows surprising and unexpected improved activity with regard to hydrodesulfurization, hydrodenitrogenation and hydrodearomatization. It is well established law that a compound and all of its properties are inseparable (*In re Papesch,* 137USPQ 43, 51), and, therefore, the improved activity of the catalyst of the invention is as an essential part of the catalyst composition as any other aspect of the composition, such as metals content, thereby imparting novelty and unobviousness.

In view of the above, all grounds for objection to and rejection of any of the instant claims have been obviated. Allowance of all of the instant claims is respectfully requested.

Respectfully submitted,



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CLAIMS

1. (previously presented) A process for activating a catalyst composition comprising at least one hydrogenation metal component of Group VI and/or Group VIII of the Periodic Table, and an S-containing organic additive, wherein the catalyst is contacted with hydrogen at a temperature between room temperature and about 600°C, and prior to or during the contacting with hydrogen the catalyst is contacted with an organic liquid, wherein the amount of organic liquid contacted with the catalyst is about 20-500% of the catalyst pore volume which can be filled with the liquid under the conditions at which contact occurs.

2. (original) The process of claim 1 wherein the contacting with the organic liquid takes place prior to the contacting with hydrogen.

3. (currently amended) The process of claim 1 wherein the organic liquid is a hydrocarbon with a boiling point range of about 150-500°C.

4. (currently amended) The process of claim 3 wherein the organic liquid is selected from the group consisting of white oil, gasoline, diesel, gas oil, ~~or~~and mineral lube oil.

5. (original) The process of claim 1 wherein the organic liquid comprises less than about 12 wt.% of oxygen.

6. (original) The process of claim 1 wherein the organic liquid comprises less than about 8 wt.% of oxygen.

7. (original) The process of claim 1 wherein the organic liquid comprises less than about 5 wt.% of oxygen.

8. (original) The process of claim 1 wherein the organic liquid comprises less than about 2 wt.% of oxygen.

9. (original) The process of claim 1 wherein the organic liquid comprises less than about 0.5 wt.% of oxygen.

10. (original) The process of claim 1 wherein the organic liquid has an iodine number of about 50 or less.

11. (original) The process of claim 1 wherein the organic liquid has an iodine number of about 30 or less.

12. (original) The process of claim 1 wherein the organic liquid contains less than about 10 wt.% of sulfur.

13. (original) The process of claim 1 wherein the organic liquid contains less than about 5 wt.% of sulfur.

14. (canceled)

15. (original) The process of claim 1 wherein the contacting of the catalyst with hydrogen takes place at a temperature of about 100-450°C.

16. (original) The process of claim 1 wherein the S-containing organic additive comprises at least one carbon atom and at least one hydrogen atom.

17. (original) The process of claim 1 wherein the S-containing organic additive is an organic compound comprising a mercapto-group.

18. (original) The process of claim 17 wherein the S-containing organic additive is a mercapto acid represented by the general formula HS-R1-COOR, wherein R1 stands for a divalent hydrocarbon group with 1-about 10 carbon atoms and R stands for a hydrogen atom, an alkali metal, an alkaline earth metal, ammonium, or a linear or branched alkyl group having 1 to about 10 carbon atoms.

19. (original) The process of claim 1 wherein the S-containing organic additive comprises about 0.01-2.5 moles of additive per mole of hydrogenation metals present in the catalyst.

20. (original) The process of claim 1 wherein the S-containing organic additive is incorporated into the catalyst composition prior to, subsequent to, or simultaneously with the incorporation of the hydrogenation metal components.

21. (original) The process of claim 1 wherein the catalyst has a metal content in the range of about 0.1 to about 50 wt.% calculated as oxides on the dry weight of the catalyst not containing the organic additive.

22. (currently amended) The process of claim 1 wherein the Group VIB metal is present in an amount of about 5-40 wt.%, calculated as trioxide.

23. (original) The process of claim 1 wherein the Group VIII metal is present in an amount of about 1- 10 wt.%, calculated as monoxide.

24. (currently amended) The process of claim 1 wherein the group VI metals are ~~selected from~~ Mo and/~~or~~ W, and the group VIII metals are ~~selected from~~ Co and/or Ni.

25. (original) The process of claim 24 wherein the amount of sulfur incorporated into the catalyst by way of the S-containing organic additive is selected to correspond to about 50-300% of the stoichiometric sulfur quantity necessary to convert the hydrogenation metals into $Co_9S_8$, $MoS_2$, $WS_2$, and/or $Ni_3S_2$, respectively.

26. (previously presented) The process of claim 36 wherein both the contacting with the organic liquid and the contacting with hydrogen are carried out *ex situ*.

27. (original) The process of claim 1 wherein less than about 10% of the stoichiometric sulfur quantity necessary to convert the hydrogenation metals into their sulfides is provided by way of S-containing compound added to the hydrogen other than sulfur originating with the S-containing organic additive.

28. (original) The process of claim 1 wherein less than about 5% of the stoichiometric sulfur quantity necessary to convert the hydrogenation metals into their sulfides is provided by way of S-containing compound added to the hydrogen other than sulfur originating with the S-containing organic additive.

29. (original) The process of claim 1 wherein substantially none of the stoichiometric sulfur quantity necessary to convert the hydrogenation metals into their sulfides is provided by way of S-containing compound added to the hydrogen other than sulfur originating with the S-containing organic additive.

30. (previously presented) The process according to claim 26 wherein the catalyst is passivated after the *ex situ* hydrogen treatment.

Need to cancel

31. (original) A catalyst obtained by the process of claim 1.

32. (cancelled)

33. (cancelled)

34. (new) A process for activating a catalyst composition comprising at least one hydrogenation metal component of Group VI and/or Group VIII of the Periodic Table, and an S-containing organic additive, wherein the catalyst is contacted with hydrogen at a temperature between room temperature and about 600°C, and prior to or during the contacting with hydrogen the catalyst is contacted with an organic liquid, wherein the organic liquid comprises less than about 12 wt.% of oxygen.

35. (new) A process for activating a catalyst composition comprising at least one hydrogenation metal component of Group VI and/or Group VIII of the Periodic Table, and an S-containing organic additive, wherein the catalyst is contacted with hydrogen at a temperature between room temperature and about 600°C, and prior to or during the contacting with hydrogen the catalyst is contacted with an organic liquid, wherein the organic liquid has an iodine number of about 50 or less.

36. (new) The process of claim 1, wherein the contacting with the organic liquid is carried out *ex situ*.